

# Bollgard II® Cotton

## *Bacillus thuringiensis* subsp. *kurstaki* Insect Control Protein

### Active Ingredients:

*Bacillus thuringiensis* Cry2Ab2 protein and the genetic material necessary for its production  
[PV-GHBK11] in event MON 15985 cotton..... 0.003-0.009%\*

*Bacillus thuringiensis* Cry1Ac protein and the genetic material necessary for its production  
[PV-GHBK04] in event MON 15985 cotton .....0.00004 - 0.00052%\*

### Other Ingredients:

Substance produced by the marker genes and the genetic material necessary for their production  
[PV-GHBK04 and PV-GHBK11] in event MON 15985 cotton..... 0.0022-0.0304%\*

\*Percentage (wt/wt) on a dry weight basis.

### PRECAUTIONARY STATEMENT

**KEEP OUT OF REACH OF CHILDREN**

### CAUTION

Net (Contents) \_\_\_\_\_

® Bollgard II is a registered trademark of Monsanto Technology LLC.

**EPA Registration Number 524-522**  
**EPA Establishment Number 524-MO-002**

Monsanto Company  
800 North Lindbergh Blvd.  
St. Louis, Missouri 63167

**ACCEPTED**

SEP 16 2008

Under the Federal Insecticide, Fungicide,  
and Rodenticide Act, as amended, for  
the pesticide registered under  
EPA Reg. No.

524-522

### DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

Cotton has been transformed to express the *Bacillus thuringiensis* subsp. *kurstaki* (*B.t.k.*) delta endotoxin Cry1Ac and Cry2Ab2 proteins for the control of the following lepidopteran cotton insect pests:

Bollgard II cotton controls or suppresses the following cotton lepidopteran insect pests:

Tobacco Budworm	<i>Heliothis virescens</i>
Pink Bollworm	<i>Pectinophora gossypiella</i>
Cotton Bollworm	<i>Helicoverpa zea</i>
Cabbage Looper	<i>Trichoplusia ni</i>
Saltmarsh Caterpillar	<i>Estigmene acrea</i>
Cotton Leaf Perforator	<i>Bucculatrix thurbeiella</i>
Soybean Looper	<i>Pseudoplusia includens</i>
Beet Armyworm	<i>Spodoptera exigua</i>
Fall Armyworm	<i>Spodoptera frugiperda</i>
Yellowstriped Armyworm	<i>Spodoptera ornithogolli</i>
European Corn Borer	<i>Ostrinia nubilalis</i>

Transformed cotton must be accompanied by the Grower Guide which contains the following:

1. The *B.t.k* delta endotoxin proteins expressed in this cotton control the above listed lepidopteran cotton insect pests.
2. Routine applications of insecticides to control these insects are usually unnecessary when cotton containing the *B.t.k* delta endotoxin proteins is planted.
3. Instruction for growers to read the product Grower Guide prior to planting for information on planting, production and insect-resistance management.
4. Bollgard II must not be planted nor sold for commercial planting in Hawaii, Puerto Rico, U.S. Virgin Islands, and south of Route 60 (near Tampa) in Florida.

The following information regarding test plots and seed production must occur on bags of Bollgard II cotton seed intended for these purposes:

- a) Test plots or breeding nurseries, regardless of the plot size, established in Hawaii must not be planted within three miles of *Gossypium tomentosum* and must be surrounded by 24 border rows of a suitable pollinator trap crop.
- b) Experimental plots and breeding nurseries of Bollgard II cotton are prohibited on the U.S. Virgin Islands, and
- c) Test plots or breeding nurseries, regardless of plot size, established on the island of Puerto Rico may be established without restriction if insecticide applications are used to effectively mitigate gene flow. Otherwise, established test plots or breeding nurseries, regardless of plot size, established on the island of Puerto Rico must not be planted within three miles of feral cotton and must be surrounded by 24 border rows of a suitable pollinator trap crop.

The following information regarding commercial production must be included in the Grower Guide:

In the states of Arizona, California, and New Mexico and in the following Texas counties: Brewster, Crane, Crockett, Culberson, El Paso, Hudspeth, Jeff Davis, Loving, Pecos, Presidio, Reeves, Terrell, Val Verde, Ward, and Winkler, all growers of Bollgard II cotton must employ one of the following structured refuge options:

**1) External, Unsprayed Refuge:**

Ensure that at least five acres of non-*B.t.k.* cotton (refuge cotton) is planted for every 95 acres of Bollgard II cotton. The size of the refuge must be at least 150 feet wide, but preferably 300 feet wide. This refuge may not be treated with sterile insects, pheromone, or any insecticide (except listed below) labeled for the control of tobacco budworm, cotton bollworm, or pink bollworm. At the pre-squaring cotton stage only, the refuge may be treated with any lepidopteran insecticide to control foliage feeding caterpillars. The refuge may be treated with acephate or methyl parathion at rates which will not control tobacco budworm or the cotton bollworm (equal to or less than 0.5 lbs. active ingredient per acre). The variety of cotton planted in the refuge must be comparable to Bollgard II cotton, especially in the maturity date, and the refuge must be managed (e.g., planting time, use of fertilizer, weed control, irrigation, termination, and management of other pests) similarly to Bollgard II cotton. Ensure that a non-*B.t.k.* cotton refuge is maintained within at least ½ linear mile (preferably adjacent to or within ¼ mile or closer) from the Bollgard II cotton fields.

**2) External Sprayed Refuge:**

Ensure that at least 20 acres of non-*B.t.k.* cotton are planted as a refuge for every 80 acres of Bollgard II cotton (total of 100 acres). The variety of cotton planted in the refuge must be comparable to Bollgard II cotton, especially in the maturity date, and the refuge must be managed (e.g., planting time, use of fertilizer, weed control, irrigation, termination, and management of other pests) similarly to Bollgard II cotton. The non-*B.t.k.* cotton may be treated with sterile insects, insecticides (excluding foliar *B.t.k.* products) or pheromones labeled for control of the tobacco budworm, cotton bollworm, or pink bollworm. Ensure that a non-*B.t.k.* refuge is maintained within at least one linear mile (preferably within ½ mile or closer) from the Bollgard II cotton fields.

**3) Embedded Refuge:**

Plant the refuge cotton as at least one single non-*B.t.k.* cotton row for every six to 10 rows of Bollgard II cotton. The refuge may be treated with sterile insects, any insecticide (excluding foliar *B.t.k.* products), or pheromone labeled for the control of pink bollworm whenever the entire field is treated. The in-field refuge rows may not be treated independently of the surrounding Bollgard II cotton field in which it is embedded. The refuge must be managed (fertilizer, weed control, etc.) identically to the Bollgard II cotton.